WHAT IS CLAIMED IS:

1. A vaccine composition capable of eliciting neutralizing antibodies in a subject to a pathogenic organism which antibodies are present in vaginal secretions, intestinal secretions, lung secretions or feces, which composition comprises:

(a) an antigen comprising a protein or peptide having

(i) an endogenous hydrophobic sequence of between about 3 and about 50 non-polar or uncharged amino acids;

(ii) added to the protein or peptide, an exogenous hydrophobic material comprising a sequence of between about 3 and about 50 non-polar or uncharged amino acids or a C8-C18 fatty acyl group; or

(iii) both (i) and (ii);

(b) complexed with said antigen, a composition comprising proteosomes, bioadhesive nanoemulsions, or both,

wherein said complexed or coupled protein or peptide maintains a native structure of antigenic epitopes such that, upon administration to said subject, the antigen induces neutralizing antibodies in one or more of vaginal secretions, intestinal secretions, lung secretions and feces, capable of neutralizing said pathogenic organism.

2. A vaccine composition according to claim 1 wherein the endogenous hydrophobic sequence or the exogenous hydrophobic material is a sequence of about 5 to about 29 amino acids.

3. A vaccine composition according to claim 1 wherein the exogenous hydrophobic material is a C8-C18 fatty acyl group.

4. A vaccine composition according to claim 3 wherein the exogenous hydrophobic material is lauroyl.

5. A vaccine composition according to claim 1 wherein the exogenous hydrophobic material is Phe Leu Leu Ala Val or Val-Ala-Leu-Leu-Phe.

6. A vaccine composition according to claim 1 wherein the antigen is a is a peptide or peptide oligomer.

7. A vaccine composition according to claim 1 wherein the protein is a viral envelope protein

8. A vaccine composition according to claim 5 wherein the viral envelope protein is an oligomeric gp160 from human immunodeficiency virus.

9. A vaccine composition according to claim 8 wherein said oligomeric gp160 has the sequence of residues 33-681 of SEQ ID NO:1.

10. A vaccine composition according to claim 1 wherein the protein or peptide is recombinantly produced.

11. A vaccine composition according to claim 1 wherein the antigenic protein or peptide natively contains at least one cysteine residue or has at least one added cysteine residue.

12. A vaccine composition according to claim 1 wherein the proteosomes are hydrophobic, multimolecular membrane proteins

13. A vaccine composition according to claim 1 formed by:

(a) bonding the hydrophobic material to said protein or peptide to form a hydrophobic-hydrophilic compound; and

(b) admixing said compound with said proteosomes, bioadhesive nanoemulsions, or both such that said antigen is complexed with said proteosomes or nanoemulsion.

14. A vaccine composition according to claim 13 wherein said admixing step is performed in the presence of a detergent, and is followed by the step of

(c) removing the detergent by dialysis.

15. A vaccine composition according to claim 13 wherein said admixing step is performed lyophilization.

16. A vaccine composition according to claim 1 formulated for intranasal or respiratory administration.

17. A vaccine composition according to claim 1 wherein the vaccine is in a dosage form suitable for multiple inoculations.

18. A vaccine composition according to claim 1 wherein the pathogenic organism is a causative agent of a mucosally-transmitted or sexually transmitted disease.

19. A process for inducing a neutralizing antibody response in a subject against a pathogenic organism resulting in neutralizing antibodies in one or more of vaginal secretions, intestinal secretions, lung secretions and feces, which process comprises administering to the subject an effective amount of a vaccine composition according to claim 1.

20. A process according to claim 19 wherein the exogenous hydrophobic material of said vaccine composition is a C8-C18 fatty acyl group.

21. A process according to claim 19 wherein the exogenous hydrophobic material of said vaccine composition is lauroyl, Phe Leu Leu Ala Val or Val-Ala-Leu-Leu-Phe.

22. A process according to claim 19 wherein the protein is a viral envelope protein.

23. A process according to claim 22 wherein the viral envelope protein is an oligomeric gp160 from HIV-1.

24. A process according to claim 23 wherein said oligomeric gp160 has the sequence of residues 33-681 of SEQ ID NO:1.

25. A process according to claim 19 wherein the antigen is a peptide or peptide oligomer.

26. A process according to claim 19 wherein the protein or peptide is recombinantly produced.

27. A process according to claim 19, wherein said vaccine composition is formed by

(a) bonding the hydrophobic material to said protein or peptide to form a hydrophobic-hydrophilic compound; and

(b) admixing said compound with said proteosomes, bioadhesive nanoemulsions, or both such that said antigen is complexed with said proteosomes or nanoemulsion.

28.. A process according to claim 27 wherein said admixing step is performed in the presence of a detergent, and is followed by the step of

(c) removing the detergent by dialysis.

29. A process according to claim 27 wherein said admixing step is performed lyophilization.

30. A process for inducing a neutralizing antibody response in a subject against a pathogenic organism resulting in neutralizing antibodies in one or more of vaginal secretions, intestinal secretions, lung secretions and feces, which process comprises administering to said subject by intranasal or respiratory route a vaccine composition according to claim 16.

31. A process according to claim 19 wherein the pathogenic organism is a causative agent of a mucosally-transmitted or sexually transmitted disease.

32. A process according to claim 30, wherein the pathogenic organism is a causative agent of a mucosally transmitted or sexually transmitted disease.